

Reg. No.									
----------	--	--	--	--	--	--	--	--	--



Manipal Institute of Technology, Manipal

(A Constituent Institute of Manipal University)



SEVENTH SEMESTER B.TECH (INSTRUMENTATION AND CONTROL ENGINEERING)

END SEMESTER EXAMINATIONS, NOV/DEC 2015

SUBJECT: REAL TIME EMBEDDED SYSTEM [ICE 443]

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

- ❖ Answer any 5 full questions.
- ❖ Missing data may be suitably assumed.
- ❖ Draw diagram wherever required and label it.

- | | | |
|------------|--|-----------|
| 1A. | In DSP processor what are the different rounding techniques involved when an arithmetic operation is performed | 5 |
| 1B. | Explain the different types of VLIW processor architecture | 5 |
| 2A. | What is IP based SOC? Explain the various classes of platform based SOC's with an example | 7 |
| 2B. | Compare SPI and I2C protocols. | 3 |
| 3A. | Explain the execution of READ operation in SRAM with timing diagram and timing parameters | 5 |
| 3B. | With a neat diagram explain the execution of read operation in DRAM super cell and brief about its timing parameters | 5 |
| 4A. | Explain with an example the role of cache in memory organization | 5 |
| 4B. | Brief about different cache mapping techniques with memory | 5 |
| 5A. | Write a note on the following | 6 |
| | a) Translation Lookaside buffer | |
| | b) Segment based address generation | |
| 5B. | Brief about the different basic bus transaction protocol | 4 |
| 6A. | In dead line based scheduling policies, explain the working of EDF, LDF and priority inversion | 10 |